

## Inlet Elements

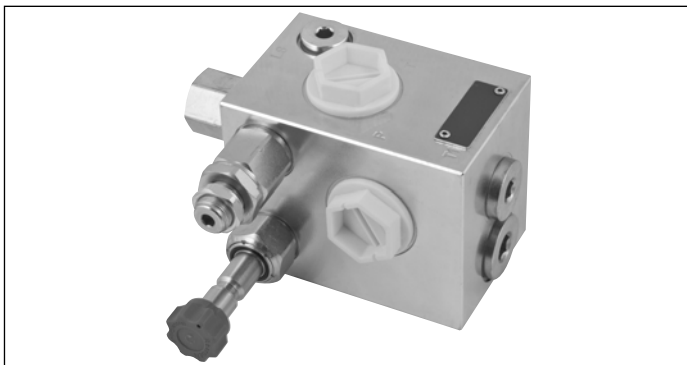
with by-pass compensator, LS relief for open center control block and solenoid operated unloading

TE-13-\_\_-

**RE 18300-13**

Edition: 05.2020

Replaces: 02.2016



### Description

The inlet elements TE-13-\_\_ are employed to connect the external P, T lines to the P, T channels inside the ED elements of the Directional Valve Assembly and to connect the LS line for inlet flow control. An LS controlled 3-way compensator provides pressure compensated flow to the ED elements of the Directional Valve Assembly, any excess flow is bypassed to tank at LS pressure plus compensator spring bias. When the ED elements are in neutral position, the compensator bypasses the entire flow to tank at a bypass pressure equal to the compensator spring bias. In case the LS pressure reaches the relief pressure setting, the compensator unloads to tank the entire flow at relief pressure plus compensator spring bias. The TE-13 can be equipped with a NO or NC Solenoid Unloading VEI Cartridge, which can be employed to unload to tank the LS signal and bypasses the entire flow to tank at a bypass pressure equal to the compensator spring bias. The TE-13 is provided with non compensated bleed down orifice. The TE-13-.... is made of zinc plated cast iron. The coil S8-356 must be ordered separately (refer to RE18325-90).

### Technical data

General		
TE13	kg (lbs)	3.6 (7.9)
Ambient Temperature	°C (°F)	-20....+50 (-4....+122) (NBR seals)
Hydraulic		
<b>Maximum pressure</b>	<b>bar (psi)</b>	<b>310 (4500)</b>
Maximum inlet flow for TE-13-__-3 version	l/min (gpm)	33 (8.7)
Maximum inlet flow for TE-13-__-5 version	l/min (gpm)	50 (13.2)
Maximum inlet flow for TE-13-__-8 version	l/min (gpm)	80 (21.1)
<b>Maximum inlet flow for TE-13-__-0 version</b>	<b>l/min (gpm)</b>	<b>120 (31.7)</b>
Rated flow at P1	l/min (gpm)	Variable <sup>1)</sup>
Hydraulic fluid		Mineral oil based hydraulic fluids HL (DIN 51524 part 1).
General properties: it must have physical lubricating and chemical properties suitable for use in hydraulic systems such as, for example:		Mineral oil based hydraulic fluids HLP (DIN 51524 part 2). For use of environmentally acceptable fluids (vegetable or polyglycol base) please consult us.
Fluid Temperature	°C (°F)	-20....+80 (-4....+176) (NBR)
Permissible degree of fluid contamination		ISO 4572: β <sub>x</sub> ≥75 X=10...12 ISO 4406: class 19/17/14 NAS 1638: class 8
Viscosity range	mm <sup>2</sup> /s	5....420

<sup>1)</sup> The maximum regulated flow on P1 line is related both to the pressure drop of the ED valve assembled on the group and their spools size.

### Note

For applications with different specifications consult us

## Ordering details

01	02	03	04	05	06	07	08	09	10
<b>TE</b>	-	<b>13</b>	-	-	-	-	-	-	<b>CI</b>

### Family

01	Inlet Elements	<b>TE</b>
----	----------------	-----------

### Configuration

02	Function with fixed displacement pump (open centre)	<b>13</b>
----	---	-----------

### Ports

03	G 1/2 DIN 3852	<b>03</b>
	G 3/4 DIN 3852	<b>04</b>
	7/8-14 UNF-2B (SAE10)	<b>57</b>

### Spool dimension

04	Maximum inlet flow 33 l/min (8.7 gpm)	<b>3</b>
	Maximum inlet flow 50 l/min (13.2 gpm)	<b>5</b>
	Maximum inlet flow 80 l/min (21.1 gpm)	<b>8</b>
	Maximum inlet flow 120 l/min (31.7 gpm)	<b>0</b>

### Pressure Relief range

05	25-120bar (350-1750 psi)	<b>1</b>
	40-200bar (580-2900 psi)	<b>2</b>
	200-310bar (2900-4500 psi)	<b>3</b>

### Compensator Cracking Pressure

06	14 bar (203 psi) <sup>1)</sup>	<b>14</b>
	18 bar (261 psi)	<b>18</b>
	Adjustable 8-18 bar (116-261 psi) Standard setting 10 bar (145psi)	<b>R8</b>
	Adjustable 10-18 bar (116-261 psi) with locking option Standard setting 12 bar (174 psi) <sup>2)</sup>	<b>BR</b>

### LS bleed down orifice

07	Diam. 0.3 (∅0.5+wire0.4) <sup>1)</sup>	<b>C</b>
	Diameter 0.4	<b>E</b>
	Diameter 0.5	<b>G</b>

### Unloading Valve

08	Without valve (ordered separately)	<b>0</b>
	Standard VEI normally open	<b>A</b>
	Standard VEI normally closed	<b>C</b>
	Plugged	<b>P</b>

### Pilot Restrictor

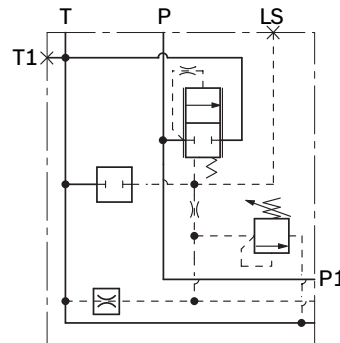
09	Standard	<b>0I</b>
	STR14CI <sup>3)</sup>	<b>CI</b>

### Material

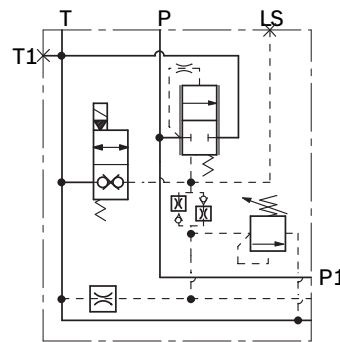
10	Cast Iron	<b>CI</b>
----	-----------	-----------

## Symbol

### Without unloading valve and fixed pilot restrictor



### With unloading valve and STR pilot restrictor



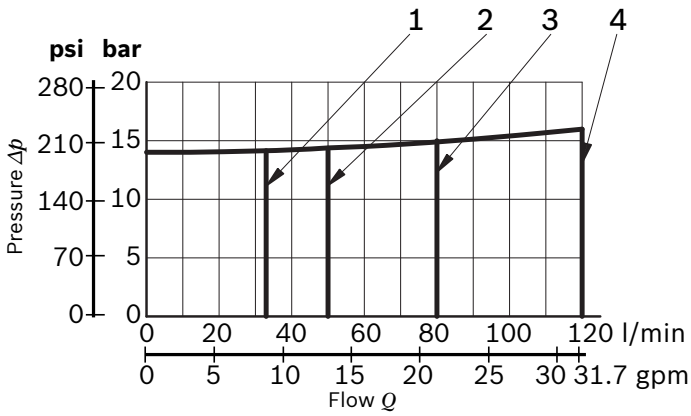
1) Recommended version.

2) Suggested for open/closed center configuration.

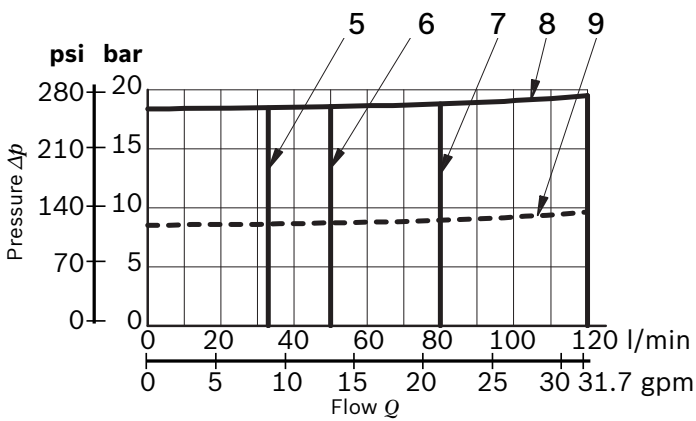
3) STR14CI not available for TE-13 with SAE 10 ports.

## Characteristic curves

### Pressure drop trough compensator



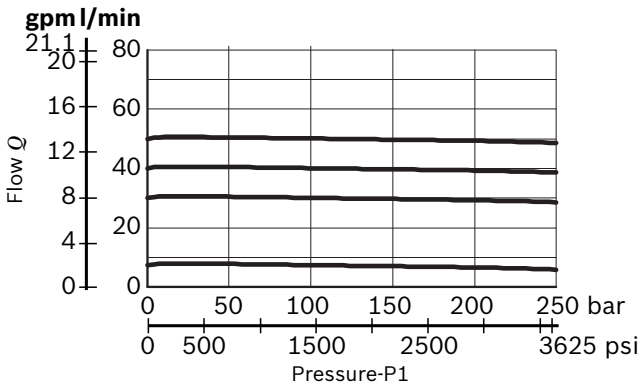
Model	Curve no.
TE-13-_-3- 14 Version	1
TE-13-_-5- 14 Version	2
TE-13-_-8- 14 Version	3
TE-13-_-0- 14 Version	4



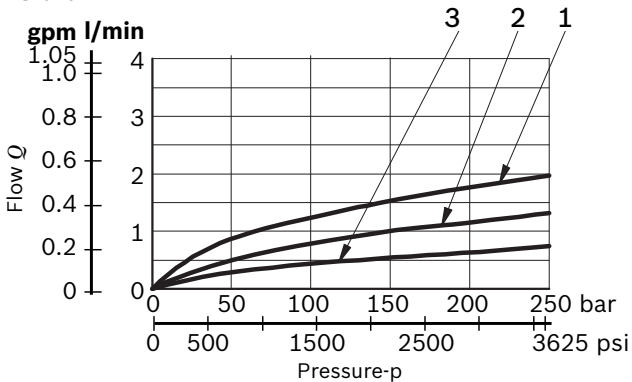
Model	Curve no.
TE-13-_-3- 18/R8 Version	5
TE-13-_-5- 18/R8 Version	6
TE-13-_-8- 18/R8 Version	7
TE-13-_-0- 18/R8 Version	8
TE-13-_-0- R8 lowest adjustable setting	9

Measured with hydraulic fluid ISO-VG32 at 45° ±5 °C (113° ±9 °F); ambient temperature 20 °C (68 °F).

### Flow rate compensation (P1)

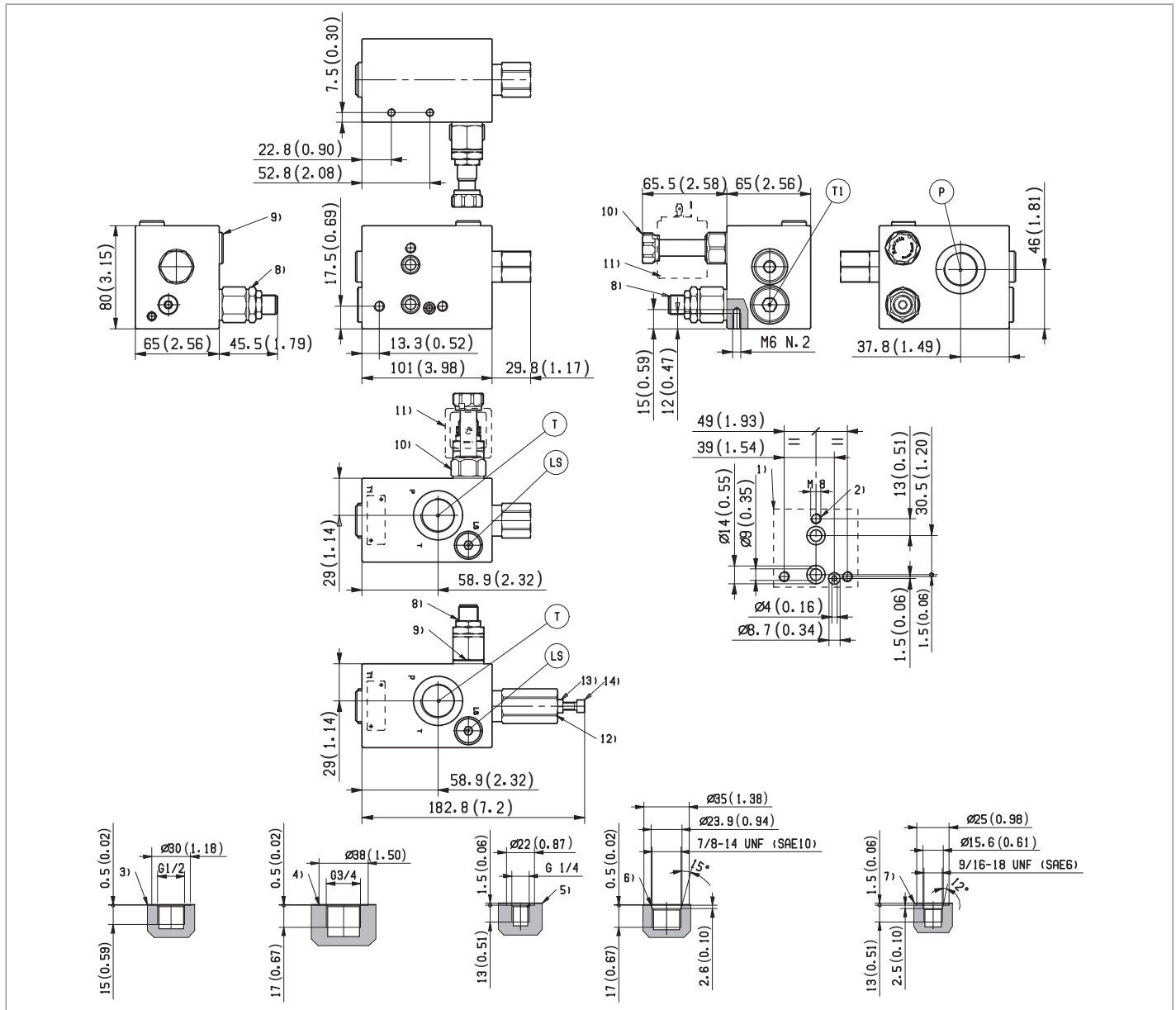


### LS drain



Fixed orifice	Curve no.
Ø0.5mm	1
Ø0.4mm	2
Ø0.3mm	3

**External dimensions and fittings**



- 1 Flange specifications for coupling to the ED Directional Valve Elements.
- 2 For tie rod and tightening torque information see data sheet RE 18301-90.
- 3 Hydraulic ports P and T G1/2, inlet elements TE-13-03-...
- 4 Hydraulic ports P and T G3/4, inlet elements TE-13-04-...
- 5 Test point LS port G1/4, inlet elements TE-13-03-...and TE-13-04.
- 6 Hydraulic ports P and T SAE10, inlet element TE-13-57-...

- 7 Test point LS port SAE6, inlet element TE-13-57-...
- 8 Pressure relief cartridge VMD1020, with screw type adjuster.
- 9 Unloading valve CA-08A-2N cavity plug TE-13-...-P-.
- 10 Solenoid Unloading cartridge VEI-8A-2T-06... type.
- 11 VEI Coil S8-356 ordered separately.
- 12 Both adjustable cracking pressure version (R8) and locking option (BR).
- 13 Maximum torque of the nut 5-6 Nm (R8 and BR).
- 14 Maximum torque of the locking screw (BR) 9-10 Nm.

**Bosch Rexroth Oil Control S.p.A.**  
Oleodinamica LC Division  
Via Artigianale Sedrio, 12  
42030 Vezzano sul Crostolo  
Reggio Emilia - Italy  
Tel. +39 0522 601 801  
Fax +39 0522 606 226 / 601 802  
compact-hydraulics-cdv@boschrexroth.com  
www.boschrexroth.com/compacthydraulics

© This document, as well as the data, specifications and other information set forth in it, are the exclusive property of Bosch Rexroth Oil Control S.p.a. It may not be reproduced or given to third parties without its consent. The data specified above only serve to describe the product. No statements concerning a certain condition or suitability for a certain application can be derived from our information. The information given does not release the user from the obligation of own judgment and verification. It must be remembered that our products are subject to a natural process of wear and aging. Subject to change.